Bulletin of Experimental Biology and Medicine 2016 vol.160 N4, pages 414-416

Effects of NO Donors and Inhibitors of NO Synthase and Guanylate Cyclase on the Acquisition of a Conditioned Defense Food Aversion Response in Edible Snails

Muranova L., Bogodvid T., Andrianov V., Gainutdinov K.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

© 2016, Springer Science+Business Media New York.Experiments on edible snails revealed that NO synthase blockade with a nonspecific neuronal NO synthase inhibitor L-NAME before defense food aversion conditioning is followed by a decrease in the rate of learning. Exogenous NO donors, sodium nitroprusside and dinitrosyl iron complex, were shown to improve learning. Chronic administration of a specific soluble guanylate cyclase inhibitor ODQ also increased the rate of learning. Our results indicate that NO has a modulatory effect on the formation of a conditioned response in this type of learning.

http://dx.doi.org/10.1007/s10517-016-3184-x

Keywords

dinitrosyl iron complex, food aversion, L-NAME, nitric oxide, sodium nitroprusside